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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,472

07/06/2006

Noriaki Onodera

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EXAMINER

YEE, DEBORAH

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/585,472	<b>Applicant(s)</b> ONODERA ET AL.	
	<b>Examiner</b> Deborah Yee	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 7 to 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 7 to 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 1, 7 and 8 recite hot rolling followed by cooling the rail in an upright position **when** a specified surface temperature range is reached yet specification in paragraphs [0013]-[0036] defines the invention as cooling the rail in an upright position **until** a specified surface temperature is reached. Clarification is required.

4. Claim 1 recites “cooling the high temperature rail to ambient temperature, wherein the rail is maintained in an upright position when a surface temperature at a head of the rail is in a temperature range of substantially 400°C to 250°C” which does not define the present invention. According to the specification, paragraph [0014] discloses present invention directed to hot rolling and maintaining rail in an upright state until the surface temperature of the head of the rail reaches the 400°C to 240°C temperature range. Also another embodiment of the present invention in paragraphs [0041] and [0046] discloses high temperature rail to be stood upright when surface temperature of the head part of rail reaches 400°C and is left to cool until temperature falls to 250°C.

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5. Claim 7 does not clearly recite the invention. It is recommended to use language such as ---...wherein in step (b) the rail is further maintained in an upright position when a surface temperature at head of the rail is in a temperature range of substantially 800°C to 400°C....---

6. Claim 8 is indefinite because it recites "accelerated cooling" at head and foot of rail but its parent claim 1 recites "without a use of both of insulation and an accelerated cooling procedure".

7. Claim 8 recites "performing accelerate cooling at a head and a foot of the rail in the upright position at a speed of substantially 1°C per second to 20°C per second, wherein the accelerated cooling is performed **when** one of (i) a surface temperature of at least the head is in a temperature range of substantially 550°C to 450°C and (ii) the surface temperature of the foot of the rail is in a temperature range of substantially 500°C to 450°C", which does not clearly define the present invention as described in the specification. Note paragraph [0035] on page 12 of the specification teaches performing accelerated cooling **until** said surface temperature of head and foot are reached. Moreover, another embodiment of the present invention disclosed in paragraph [0050] on page 19 of the specification teaches forcibly cooling high temperature rail until the surface temperature of the head part of the rail falls from 800°C to 450°C at an accelerated cooling speed preferably of 1°C/sec to 20°C/sec.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1 and 10 to 12 have been considered but are moot in view of the new ground(s) of rejection.

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***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1 and 10 to 12 rejected under 35 U.S.C. 103(a) as being unpatentable over English translation of Japanese patent 59031824 ("JP-824").

11. JP-824 discloses a rail manufacturing method in figure 5, which is referred to as comparative example C, comprising the steps of hot rolling billet into the form of a rail having high temperature of about 700°C followed by cooling naturally in the upright position on a cooling bed with no insulative material to ambient temperature such that cooling occurs in the temperature range of 400 to 250°C as recited by claim 1.

12. In regard to claim 10, the prior art rail is maintained in the upright position until an ambient temperature is reached.

13. In regard to claim 11, prior art figure 5 discloses cross-section shape of the rail is measured online during a conveyance of the rail.

14. In regard to claim 12, JP-824 does not teach length of rail in the range of 80 to 250 meters but length of rail would be a matter of choice well within the skill of the artisan to select and productive of no new and unexpected results.

15. Claims 1, 7, and 10 to 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 1,456,944 ("Stenbol") in view of US Patent 6,432,230 ("Kock").

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16. Stenbol in claims 1 to 5 on page 2 discloses a rail manufacturing method comprising the steps of hot rolling billet into the form of a rail having high temperature followed by cooling naturally in the upright position without the use of insulation and an accelerated cooling procedure to ambient temperature while the foot of the rail is mechanically restrained on the cooling bed by a clamp apparatus (see Figures 1 and 2, items E and 17)

17. Stenbol does not teach cooling in the upright position at a temperature range of 400 to 250°C as recited by claim 1 or 800 to 400°C as recited by claim 7 but such temperature range for cooling would be expected since hot rolling prior to cooling rail is conventionally performed in the austenitic temperature range of 800°C or above, as evident by Kock.

18. In regard to claim 10, the prior art rail is maintained in the upright position until an ambient temperature is reached.

19. In regard to claim 11, the technique of measuring the cross-section shape of the rail online during a conveyance of the rail is conventionally practiced in the metallurgical art in order to control accuracy and would be a matter of choice well within the skill of the artisan to incorporate.

20. In regard to claim 12, Stenbol does not teach length of rail in the range of 80 to 250 meters but the length of rail would be a matter of choice well within the skill of the artisan to select and productive of no new and unexpected results.

***Conclusion***

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00 am-2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah Yee/  
Primary Examiner  
Art Unit 1793

/DY/